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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,218	01/28/2002	Arne Holmgren	P21480	8453

7055 7590 12/31/2003

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EXAMINER

KUMAR, SHAIENDRA

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 12/31/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/926,218

Applicant(s)

HOLMGREN ET AL.

Examiner

SHAIENDRA - KUMAR

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

This office action is in response to applicants' communication filed in paper # 11, on 9/10/03.

Claims 13-25 are pending in this application. Claims 1-12 have been canceled.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Arteel et al (Chem. Res. Toxicol., Vol 12, 1999, pages 264-269).

Instant claims are directed to a method for reduction of a substrate with thioredoxin reductase, by combining the thioredoxin reductase, the substrate, and NADPH, so as to reduce the substrate, and wherein the substrate is Ebselene. Claims 15 and 18 are directed to a method of enhancing peroxidase activity of thioredoxin reductase, using the substrate, NADPH and thioredoxin reductase. Claim 17 is directed to a method of oxidizing reduced thioredoxin by Ebselene. Claim 19 is directed to a method of preventing peroxidation of a substance by combining thioredoxin, thioredoxin reductase, NADPH and Ebselene. Claims 21 and 22 are directed to above methods in mammals.

As explained in paper # 8, Arteel et al teach every element of instant claims. For example, see line 1 of the abstract wherein mammal is referenced, column 1, 2<sup>nd</sup>

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paragraph lines 1-3, and lines 7-8, 1<sup>st</sup> paragraph, column 2, describe all the elements of the claims.

***Claim Rejections - 35 USC § 103***

3. Claims 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teachings of Arteel et al and Muller et al, all for the reasons of record as set forth for claims 4-11 in paper # 8.

As stated above, Arteel teaches every element of the instant claims. Muller et al further teach that Ebselene is an enhancer of the peroxidase activity (in fact Arteel teach this property inherently).

Applicants' arguments were fully considered and were not found convincing. Applicants' arguments with respect to the mechanism of the reaction is of little if any probative value inasmuch as the function is same, because applicants are not claiming the mechanism, rather they are claiming the function itself. Applicants' arguments regarding concentration is not understood, because the concentration has not been claimed. Arteel alone either anticipates instant claims or at least renders obvious instant claims. Muller et al is supporting the element which Arteel is teaching inherently. Engman reference has not been cited and is not required for supporting the instant rejection.

Applicants argue that in contrast to the reference, Ebselene is substrate in the instant claims being reduced by NADPH and thioredoxin reductase. Arteel teaches the same thing.

No claim is allowed.

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4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **SHAIENDRA - KUMAR** whose telephone number is 703-308-4519. The examiner can normally be reached on Mon-Thur 8:00-5:30, Alt Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 703-308-4532. The fax phone number for the organization where this application or proceeding is assigned is 703-308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.



**SHAIENDRA - KUMAR**  
Primary Examiner  
Art Unit 1621

S. Kumar

12/24/03